ABSTRACT REVIEW

BAR14-0461

Evaluation of economic impact of clinical research samples in our hospital pharmaceutical costs

Co-authors
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Background
Clinical trials (CT) present an opportunity to access to potentially more effective treatments than current treatments and are necessary for the development of new drugs.
For hospital managers, CT are a source of cost avoidance generated when patients are treated with free clinical research samples supplied by the sponsors.

Purpose
To evaluate the economic impact that clinical research samples suppose in our hospital pharmaceutical costs.

Materials and Methods
Retrospective analysis of the costs of investigational drugs supplied by sponsors used in 2012 in a 1200 bed’s hospital.
Data was obtained from CT and general pharmacy service management software and the annual summaries of CT area. We used price for commercialized drugs and laboratory purposed price or the standard alternative treatment price for those non commercialized.
Total economic benefit was obtained and analyzed by investigational service, studying disease and therapeutic group. SPSS® software 20.0 version was used.

Results
187 CT were active during 2012, and 68 used investigational drugs, with a estimate value of 4319247€; this amount supposed the 6.6% of total pharmaceutical costs of our hospital.
9 investigational services performed the CT, hematology and oncology supposed the 51.7% and 44.3% of total amount, respectively.
31 different pathologies were analyzed; Gaucher’s disease with two CT supposed the 37%, 19.6% from one melanoma CT, 11% from seven multiple myeloma CT followed by breast (12 CT) and ovarian (3 CT) cancers.
Taliglucerase, vemurafenib and lenalidomide were the most important with the 33.5%, 19.6% and 7.8%, respectively.
By therapeutic groups, 45.5%, 37.9% and 13.1% of total amount were due to antineoplastic agents, enzyme replacement therapy and immunosuppressive drugs, respectively.

Conclusions
Investigational drugs generate important savings to health systems and it helps promoting the therapeutic innovation.
In our hospital, it generated important cost avoidance with a 6.6% saving from the total hospital pharmaceutical costs.

No conflict of interest

Keywords
Clinical trial; Economic evaluation; Clinical research samples;

Authors letter
To have a real view and know the contribution of clinical research samples in our hospital it is necessary to evaluate the economical amount that clinical research samples supplied by the clinical trials (CT) sponsors suppose. This is the first time we evaluate the economic impact that clinical research samples suppose in our center. It will facilitate the information and experiences exchange between professionals, which is one of the targets of some quality improvement programs in healthcare. For healthcare system, innovation and advances in therapeutics provided by the CT lead to savings in pharmaceutical costs due to clinical research samples. Data about the economic impact generated by investigational drugs helps us in the development of budget data and to evaluate the impact of different diseases in the therapeutic positioning.

Score: 0

Remarks all reviewers:
Spriet, Isabel: Conclusion NOT warranted
Conflict of interest clear
Rejected
3.6
Reason for reject: ; New category: T8
Only a analysis of drugs in clinical trials.

BAR14-0466

Pediatric otorhinolaryngology surgical interventions. Are we prescribing antibiotics in a rational way?

Co-authors
Background

WHO defines appropriate use of antibiotics as the ‘most effective use which maximizes clinical therapeutic effect while minimizing both drug related toxicity and development of antimicrobial resistance’. The largest consumption of antimicrobials is concentrated in hospitals. The quality of antimicrobial use is not optimal. Many prescriptions are unnecessary or inappropriate and that leads to severe consequences, such as increased patient mortality and morbidity and bacterial resistance. This fact is especially important in children, who are more susceptible to toxicity drugs and they need as much effective antibiotics as possible for the rest of their lives.

Purpose

To assess all the antibiotic prescriptions during hospital admission of pediatric patients who were under tonsillectomy (T), adenoidectomy (A) and drainage trans-tympanic (DTT), the most common surgical interventions in children population.

Materials and Methods

A retrospective observational study over a period of one year of children aged between 1 month and 14 years old. In order to complete the assessment, this study has used a guideline elaborated by a multidisciplinary expert team in antibiotherapy and infectious diseases. It has been supported by the latest and current recommendations of scientific literature.

Results

Table

<table>
<thead>
<tr>
<th>No. Otolaryngology surgical interventions</th>
<th>269 (100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T + A</td>
<td>126 (47%)</td>
</tr>
<tr>
<td>T + A + DTT</td>
<td>143 (53%)</td>
</tr>
<tr>
<td>Sex of patients</td>
<td>168 (62%)</td>
</tr>
<tr>
<td>Male</td>
<td>101 (38%)</td>
</tr>
<tr>
<td>Female</td>
<td>67 (22%)</td>
</tr>
<tr>
<td>Age of patients (years old)</td>
<td>4.5 (1-13)</td>
</tr>
<tr>
<td>Period of hospital admission (days)</td>
<td>1.05 (1-4)</td>
</tr>
<tr>
<td>No. Antibiotic prescriptions</td>
<td>801</td>
</tr>
<tr>
<td>Intravenous</td>
<td>526</td>
</tr>
<tr>
<td>Oral</td>
<td>346</td>
</tr>
<tr>
<td>Otic administration</td>
<td>275</td>
</tr>
<tr>
<td>Rational selection of the antibiotic</td>
<td>80%</td>
</tr>
<tr>
<td>Rational dosing interval</td>
<td>99%</td>
</tr>
<tr>
<td>Rational dosage (based on patient weight)</td>
<td>51%</td>
</tr>
<tr>
<td>Rational duration of antibiotherapy</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Conclusions

• There is an overprescription of antibiotics used in prophylaxis of these kind of interventions classified as clean-contaminated surgeries.
• It is necessary to take some action plans as soon as possible in order to reverse this really concern situation. Some of these changes could be raising awareness of this problem and strengthening the continuing training of health professionals, introducing some treatment guidelines or prescription supports at hospitals.

No conflict of interest

Keywords

Antibiotic; Rational; Pediatric;

Authors letter

- Antibiotics constitute one group of drugs that live a worrying situation. - Currently, the research of new antibiotics is slow and insufficient to cure infections with the same antibiotics.
antibiotics is extremely poor. In the coming years we will have to cure infections with the same antibiotics that are commercialized on the market right now. Hospital pharmacists have an important role in this purpose of promote and encourage the rational use of antibiotics.

Score: 60
Remarks all reviewers:
Spriet, Isabel: Conclusion NOT warranted
Conflict of interest clear
Rejected
1.6.8.
Reason for reject: ; ; 
Missing antibiotic guidelines of the hospital to make a comparison with the current practice.

BARI4-0468
VKORC1 in the selection of oral anticoagulant therapy for atrial fibrillation patients
Co-authors
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Background
Vitamin K antagonists (VKAs) remain the oral anticoagulant most prescribed for treatment and prevention of thrombotic disorders in atrial fibrillation (AF), despite the recent apparition of new oral anticoagulants dabigatran, rivaroxaban and apixaban (NOACs). NOACs represent the alternative for some special cases (hypo- or contraindication to VKAs; poor INR (International Normalizated Ratio) control or unavailability for INR control). VKORC1-rs9923231 gene polymorphism is related to longer time to achieve stability, higher risk of overanticoagulation in the first months of treatment and lower VKAs doses compared to wild-type patients, therefore exposing these patients to higher risk of adverse reactions.

Purpose
Our aim was to evaluate the association of VKORC1 TT-genotype with the change from VKAs to NOACs therapy due to poor INR control at Complejo Hospitalario de Granada.

Materials and Methods
Retrospective Cohorts study. Patients diagnosed with AF in oral anticoagulant therapy.
Comparison of VKORC1-rs9923231 genotype between patients treated with acenocoumarol and achieved stable dose after a minimum period of seven months and patients who were derived to NOACs after pretreatment with acenocoumarol due to poor INR control. Cohorts were defined by VKORC1 TT-genotype.
Genotyping was performed by Polymerase Chain Reaction - Restriction Fragment Length Polymorphism for VKORC1-rs9923231.

Results
Seventy-nine patients fulfilled the inclusion criteria in total. Seventy-one had achieved stable doses with acenocoumarol (89.9%; 71/79) and 8 had been derived to NOACs (10.1%; 8/79).
VKORC1-TT-genotype was presented in 13 patients, 4 derived to NOACs due to poor INR control (30.8%; 4/13). VKORC1-C-allele was presented in 66 patients, 4 changed to NOACs (6.1%; 4/66). Relative risk for deriving to NOACs was 5.1 (1.5-17.8; p=0.022).

Conclusions
Specific long-term oral anticoagulant therapy initiation (VKAs vs NOACs) should be selected according to prior determination of VKORC1 TT-genotype in AF patients.

No conflict of interest

Keywords
pharmacogenetics;VKORC1;acenocoumarol;

Authors letter
1) This study may provide a useful tool to select the most appropriate oral anticoagulant in Atrial Fibrillation patients. 2) Use of genetic determination prior oral anticoagulant therapy. 3) Pharmacogenetic studies in oral anticoagulant field can improve efficacy and safety of the therapy.

Score: 160
Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Involvement of Hospital Pharmacists in health education for prisoners: assessment of a workshop focused on therapeutic compliance

Co-authors
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2Centre pénitentiaire Les Baumettes, Medical unit, Marseille, France.

Background
Prisoners tend to have poorer physical, mental and social health than the population at large. Moreover, prison takes away autonomy. In our institution, a multidisciplinary program about health promotion has been developed to help prisoners adopt healthy behavior that can be taken back into the community. Therapeutic compliance has been identified as a relevant skill to enhance clinical outcomes.

Purpose
To develop a workshop focused on therapeutic compliance and assess its efficiency.

Materials and Methods
The workshop involved a physician, two nurses and was led by two pharmacists. It combined theoretical exchange and practical training about the empowerment of patients in their health care, in order to improve their therapeutic compliance. At the end of the session, a self-rating questionnaire was performed to assess outcomes from 3 learning objectives (LO):

- LO1: identify and take advantage of key steps of the communication with medical staff in order to understand illness and treatment;
- LO2: find information about his medication;
- LO3: good practices in drug use.

An open question explored the learnt skills that will be set up after the workshop.

The impact was estimated crossing inmates’ satisfaction, learning outcomes and achievement transfer.

Results
15 prisoners participated in one session. The total post-workshop scores were significantly improved for LO 1 (3.4±0.3 vs. 4.3±0.2; p=0.001) and LO 3 (3.5±0.4 vs. 4.4±0.2; p=0.001). These increases highlight a learning effect. Relative improvements were 56.3% for LO1 and 60.8% for LO3. These results validate the pedagogical efficiency of coordinators. The only score that did not improve significantly was about LO2.

14/15 (93%) have estimated themselves ‘satisfied’ or ‘very satisfied’. Even the only ‘poorly satisfied’ person misunderstood the topic of this workshop, all the participants were ready to take part in other sessions, illustrating relevance.

About achievement transfer, key points from all LOs were reported with an average of two new skills per patient.

Conclusions
The pro-activity of inmates during the workshop revealed interest and need for information about their role in health care system. Increased knowledge and patients’ satisfaction illustrate the positive impact of this workshop. These short-term results are really encouraging and emphasize the additive value of pharmacists’ involvement in health education programs ongoing in prisons.

No conflict of interest

Keywords
health education, compliance, prison;

Authors letter
Dear Scientific Committee member, Please find enclosed an abstract entitled "Involvement of Hospital Pharmacists in health education for prisoners: assessment of a workshop focused on therapeutic compliance", submitted for poster communication to the 19th congress of the EAHP. In our country, health care for prisoners are attributed to the hospital staff since 1994. Recent recommendations have been published to develop health promotion programs in prison. This work could be of interest to our HP
Prisoners tend to have poorer health than the population at large and need for health promotion are important; 2) few publications describing impact of health education in prison; 3) Pharmaceutical and social skills of HP can be promoted through such initiatives. Thank you for your time and consideration.

Score: 120
Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted
Nominee: No

Special and rather unknown domain in pharmaceutical care

BARI14_0470
government expenditure on pharmaceuticals in ophthalmology: Ranibizumab between innovation and sustainability

Co-authors
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1Azienda Ospedaliero-Universitaria di Perugia, Hospital Pharmacy, Perugia, Italy.

Background
The work is inspired by the recent and controversial AIFA's (the Italian Drug Agency) provisions on the use of intravitreal bevacizumab which caused, at the end of 2012, a forecast of patient treatment switch with bevacizumab to the one with ranibizumab, with a consequently-consistent increase in spending.

Purpose
Given the need for spending review, the Hospital Pharmacy in Perugia has closely worked with the Department of Ophthalmology to minimize the increase in spending.

Materials and Methods
As a result of that collaboration, we have acted on two fronts. On the one hand, a proper protocol of prescription was created in order to select the patients in terms of therapeutic appropriateness. On the other, the drug preparation has involved the Hospital Pharmacy, by centralizing and building a specific procedure in order to minimize wastages as much as possible.

Results
By following implementation of the Protocol, which regulate all the treatments that require the use of intravitreal injections (including Ozurdex and Avastin), there has been a sizeable reduction in the number of treatments, mainly due to a more careful selection of patients than when bevacizumab was used. By centralizing the preparation and adopting a specific procedure, the use of wastages is optimized as well. Overall, the Department of Ophthalmology, in the first 4 months in 2013, did not record any increase in expenditure compared to the corresponding period in 2012.

Conclusions
Teamwork has allowed to manage a predictable economic emergency and has contributed to minimizing the spending problem. Clinicians have extremely been cooperative and have contributed to preparing the therapeutic protocol. The saved resources with the centralized preparation could be used for the implementation of an automated system for the making-process of chemotherapy drugs.

No conflict of interest

Keywords
ranibizumab; therapeutical protocol; minimized spending;

Authors letter
The need for spending review and the economic hardship have stimulated us to work closely with clinicians in order to minimize the increase in spending. We have created a new protocol of prescription in order to improve therapeutic appropriateness and a new specific procedure of ranibizumab preparation to minimize wastages. The saved resources will be one of the strengths to justify the implementation of an automated system for the making-process of chemotherapy drugs.
BAR14-0473
Severe calcinosis cutis successfully treated with a topical W/O emulsion of sodium-thiosulfate 10%

Co-authors
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1Hospital Universitario Virgen del Rocio, Pharmacy Department, Seville, Spain.
2Hospital Universitario Virgen del Rocio, Dermatology and Venereology Department, Seville, Spain.

Background
Calcinosis is caused by accumulation of calcium salts in the tissue, with subcutaneous nodules, atrophy and ulceration on the affected area. Treatment with intravenous sodium-thiosulfate has been used, since it inhibits calcium salts precipitation and dissolves calcium deposits. Recently, cases successfully treated with topical sodium-thiosulfate 10-20% have been described.

Purpose
To analyze the efficacy and safety to topical treatment with a formulation of sodium-thiosulfate 10% in a pediatric patient with iatrogenic calcinosis.

To optimize the preparation of the formulation.

Materials and Methods
Case: Male 6 years old with primary hypothyroidism and post-surgical hypoparathyroidism treated with calcium gluconate. In January 2013, he was diagnosed of iatrogenic calcinosis presenting stony-consistence erythematous spot in both arms. Topical sodium-thiosulfate 10% was prescribed.

A literature search in PubMed was conducted to find the proper formulation.

The first sample was conserved to check the stability of the emulsion.

After starting treatment, a follow-up of the clinical evolution was conducted during successive visits (January-April 2013) and the clinical data.

Results
To achieve greater occlusivity that allowed adequate absorption and higher pharmacological effect, a topical W/O emulsion was prepared using a commercial product ('cold-cream') as oily external phase. It was necessary dissolve the hydrophilic drug in water prior the incorporation to the external phase.

Clinical response to treatment was prompt, reducing injuries, subcutaneous calcifications, induration and swelling gradually. After 15 days, the pain disappeared almost completely and mobility was recuperated with the help of rehabilitation. The calcified material was gradually expelled as calcium crystals through ulcers during three months.

Cream tolerance was adequate, with slight temporal pruritus in the first month.

The preserved emulsion remained stable for 4 months.

Conclusions
Topical treatment with a W/O emulsion of sodium-thiosulfate 10% resulted effective and well tolerated (without topical or systemic adverse reactions).

Despite the low compatibility between ionic drugs and ‘cold-cream’, the emulsion was stable at least 4 months.

No conflict of interest

Keywords
Calcinosis cutis; Sodium-thiosulfate; Formulation;

Authors letter
Calcinosis is caused by accumulation of calcium salts in the tissue, with subcutaneous nodules, atrophy and ulceration on the affected area. Therapeutic management is variable and supportive treatment of the clinical manifestations prevails. In severe cases, treatment with intravenous sodium-thiosulfate has been used, since it inhibits calcium salts precipitation and dissolves calcium deposits. Recently, some cases successfully treated with topical sodium-thiosulfate 10-20% have been described and it could mean a novel therapeutic option, so it would be neccessary to optimize the formulation of this drug to obtain adequate efficacy and safety.

Score: 120

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted, but Author modifications
1.2.
Modifications needed: ;
Nominee: No

BAR14-0479
Are pharmacist’s recommendations on drug compatibility applied and relayed by caregivers? A randomized controlled study.

Co-authors
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¹Geneva University Hospitals (HUG), Pharmacy, Geneva, Switzerland.
²University Paris Descartes, Faculty of Pharmacy, Paris, France.
³Geneva University Hospitals (HUG) School of pharmaceutical sciences University of Geneva University of Lausanne, Pharmacy, Geneva, Switzerland.

Background
In our institution, pharmacists advise caregivers facing parenteral drug compatibility issues by answering questions via a hotline. Actual implementation of the oral recommendations and transmission of the information among the teams is not guaranteed. Indeed, the same questions may occur repeatedly.

Purpose
To assess:
1. the implementation and transmission of the pharmacist’s recommendations in the ward
2. the impact of a written document providing infusion regimen in addition to the oral answer
3. the nurses’ perception on the transmitted information

Materials and Methods
Randomized controlled study over 15 months (06/12-09/13). Hotline questions regarding parenteral drug compatibility were randomized in 2 groups: phone answer only (WITHOUT) versus phone answer plus a written structured document providing an infusion regimen (WITH). Consistency of the infusion regimen with the proposed one, information transmission in the nurse team (written document at bedside and/or nurse informed) and opinion about the received information were assessed at 24h through a nurse interview at bedside (standardized questionnaire, 5-steps categorical scale, Fisher’s exact test).

Results
80 compatibility questions were included (37 WITHOUT, 37 WITH and 6 lost to follow-up). Infusion regimen was consistent with the recommendation in 63% of the cases (62.2% WITHOUT, 63.9% WITH, p>0.05). Modification of the prescription was the main reason (53.8%) for not following pharmacist’s recommendations. Information transmission was not significantly improved by the document (WITHOUT 60.0%, WITH 74.3%, p>0.05). However, 25/36 (69.4%) nurses found the document excellent or very good and 30/35 (85.7%) sensed that it improved information transmission. Moreover, 29/37 (78.4%) nurses who didn’t received the document would have found it helpful. As a whole, 66/74 (89.2%) caregivers would like to have the information documented in the electronic patient record.

Conclusions
Pharmacist’s recommendations on drug compatibility were applied and relayed in two third of the cases by caregivers, the major barrier being the rapid evolution of prescriptions. An impact of a written document on information transmission could not be determined, however this new tool was very well perceived by caregivers. Implementation of information in the electronic patient record should be considered.

No conflict of interest

Keywords
Pharmaceutical interventions; Drug incompatibilities; Standardized document;

Authors letter
Our paper is highly relevant because it represents a daily issue for hospital pharmacists to make recommendations to caregivers and be sure of their implementation. We propose to innovate by using a standardized written document describing infusion regimen and to test the potential improvement of the transmission and traceability in care units.

Score: 140
Remarks all reviewers: Spriet, Isabel: Conclusion warranted Conflict of interest clear Accepted
Nominee: No

BAR14-0480
Evaluation of pharmacological integrated healthcare process indicators diabetes mellitus

Co-authors
A. Moreno Villar¹, A. Gil Rodriguez², I. Nacle López¹, T. Ruiz-Rico Ruiz-Morón¹.
¹Hospital San Juan de la Cruz, Pharmacy, Ubeda, Spain.
²Primary Care District, Pharmacy, Linares, Spain.

Background
Integrated care processes (ICP) introduce quality criteria for quality monitoring.

Purpose
Evaluating compliance of pharmacological integrated Integrated Healthcare Process (IAP) Diabetes

Materials and Methods
Prescription-indication study in a regional hospital. Source: Basic Minimum Set of Data (BMSD) and medical history. Sampling was performed using Lot Quality Assurance Sampling with binomial distribution. Sampling frame defined by all patients admitted with a diagnosis of Diabetes Mellitus in January / November 2012: of 1037 patients over 19 select 19 backup stories.

Indicators assessed: I1: Prescription for active. Included for being objective of the Strategic Plan on the Rational Use of Medicines Andalusian Health Service (SAS). I2: Establishment of pharmacological lipid lowering therapy in primary and secondary prevention patients over 40 years with factors of Vascular risk (FRV) or high RV. I3: Pharmacological treatment of choice: Statins - simvastatin 20 - 40 mg/day, except justified reasons, atorvastatin 80 mg in heterozygous Familial high levels of cholesterol and acute coronary syndrome of low comorbidity in hospitals. Criteria of compliance/standards: 81% for I1 (according to contract program SAS); 70% for I2 (criterion of experts) and 45% for I3 (optimum synthetic indicator of the 2012 program contract).

Results
19 Stories were analyzed. Middle Ages: 76.58 ± 8.3 SD. I1: Prescription for active ingredient exceeded the standard (85% p 0.045). I2: Everyone fulfill the criteria of the process, reaching 85% according to methodology (68.4% secondary prevention). I3: Compliance with acceptable quality standard established in the PAI, 14 treatments (56.6% p 0.049) fulfilled it. Simvastatin was selected (52.6%), both in primary and secondary prevention.

Conclusions
The health care team fit their prescription to the agreed criteria (excellent (I1 and I2), very acceptable I3). The system of evaluation and methodology is cost-effective allowing us to know the situation using small samples.

No conflict of interest

Keywords
Results measures; Audit; Results evaluation;

Authors letter
Dear Editor Integrated care processes (ICP) introduce quality criteria for quality monitoring. In 2007, the implementation of a systematic procedure for self description was considered in our hospital. It evaluates the degree of compliance with appropriate criteria agreed by the professional group that develops a strategy based on the rational use of medicines. It also contains recommendations to streamline the computers in the analysis of results and design an improved strategy. Lot Quality Assurance Sampling (LQAS) was used in order to determine compliance of prescribing quality indicators, based on binomial distribution (adapted by A. Saturno PJ Rabadan). This approach is interesting because it requires a smaller sample size than conventional methods and less effort during data collection. Almost repeated monitoring can be used too. It is called “fast and sequential in time”. The use of smaller sample size can be useful to detect weaknesses in small areas (service sections, units, etc.). The system and methodology is cost-effective. The evaluation and dissemination of results to practitioners is a good item to improve proposals. The impact of this approach depends critically on the adherence of health professionals.

Score: 100
Remarks all reviewers:
Spriet, Isabel:
Rejected
1.5.8.
Reason for reject: ; ; ;

BAR14-0489
Evaluation of the telaprevir and boceprevir demand
Co-authors
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1Hospital de la Ribera, Pharmacy, Valencia, Spain.

Background
The Department of Pharmacy published recommendations in order to ensure rational use of telaprevir/boceprevir for the treatment of chronic hepatitis C disease and equal patient access to these treatments.

Purpose
To validate the clinical results appearing in the applications for the protease inhibitors medicaments/telaprevir/boceprevir, through the data from medical records analysing at the same time the economical impact coming from the discrepancies founded in the treatment approval.

Materials and Methods
A retrospective observational study of telaprevir/boceprevir treatments from April’12-March’13. Mandatory application fields such as the patient type (naïve/pre-treated), categorization of the previous treatment response (relapse-patients/partial-responders/null-responders/unexpected-response), degree of fibrosis (F0-F4), all included in the treatment applications will be analysed and contrasted with data from the medical record.

**Results**

32 telaprevir/boceprevir applications were received, 5 of them naïve patients (15.6%) and 27 pre-treated patients (84.4%), where 16 relapse-patients RP (59.2%), 4 partial-responders PR (14.8%), 5 null-responders NR (18.5%) and 2 gave unexpected responses UR (7.4%).

In 7 of the 16 RP applications (43.7%), some mismatches in the degree of fibrosis appeared (viral burden is detectable after 24 weeks, undetectable after 48 weeks).

In 2 of them, the degree of fibrosis was above the one specified in the medical record. In the other 5 applications, the degree of fibrosis was omitted but appeared included in the medical record, being in every case equal or lower than F2.

Few mismatches were founded in the evaluation process of every PR application with no information about previous treatment responses (a decrease of at least 2log in the viral burden regarding to the basal value at week number 12). As regards their medical records, all of them were NR.

**Conclusions**

13 applications (40.6%) had discrepancies with the medical record related to the degree of fibrosis and the response to a previous treatment. The treatment approbation criterion is up to discussion in 6 of them, decreasing it health expenses in 172,191.84€ (18.7%). It is extremely important to contrast all the information included in every application with its related medical record, before starting the required evaluation.

Conflict of interest: Enter Yes or No: No

Keywords: evaluation; impact; protease inhibitors;

Authors letter

My abstract is important because it raises an issue regarding the use of telaprevir and boceprevir in patients who do not meet the inclusion criteria for triple therapy in the treatment of hepatitis C infection. It will be necessary to review treatment requests to ensure the rational use of medicines and equal patient access to these drugs.

Score: 80

Remarks all reviewers:

Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
3.5.8.
Reason for reject: ; ; ;
Weak DUE.

BARI14-0494

Have pharmacist recommendations from medication reviews changed over time

Co-authors

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**Background**

Studies show that pharmacist interventions can be used of nurse and physicians in assessment of the medication to increase the quality and safety of the patient. In Denmark it has not been investigated what happens when pharmacist expertise is used at the same ward 5 days a week during 2 years. Hypothetically, interventions from pharmacists will be reduced gradually because they are implemented at the ward by physicians and nurses.

**Purpose**

The aim was to study if there was a reduction of interventions from pharmacist medication reviews over 2 years. The result can be use to develop the pharmacist medication reviews to ensure the implementation.

**Materials and Methods**

The medications review was done by 4 pharmacist at the emergency care and the cardiology ward at admission. The pharmacist wrote the interventions in the electronic patient records. The pharmacists’ interventions from the electronic patient records from July 2010 to December 2010 are compared with the interventions from July 2012-December 2012.
Results
The number of pharmacist medication reviews rose 9% and the number of beds extended 13%. During the same period of time the interventions rose from 1527 to 2009 (31%). The increase was observed in 3 frequent categories.
The dosing frequency and the dosing time interventions rose 330%. Most of these suggest a different dosage interval to give antibiotic or another dosing time.
Inappropriate drug interventions rose 93%. The most comment dealt with inappropriate drugs due the current clinical situation. Contraindications of the drugs maintain the most of the interventions.
The dose of drug interventions rose 50%. It was the category with most comments during both periods of time. 55% of the interventions suggest a reduction of dose. Mainly due the impairment or the age.

Conclusions
There was no reduction of interventions from pharmacist medication reviews at admission over 2 years. Actually there was a rise in number of interventions from the first period to the second.
The increase of interventions show that the suggested interventions are not being implement at the wards.
In future the pharmaceutical medication reviews must be supplemented with other means of support in order to be implemented.

No conflict of interest

Keywords
medication review; Pharmacist intervention; Interventions over time;

Authors letter
- The work is relevant to pharmacist who work at medication review.
- The pharmacist interventions rise over time.
- Written intervention from pharmacist must be supplemented with other means of support in order to be implemented at the ward.

Score: 160

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted, but Author modifications
1.4.
Modifications needed: ;
Nominee: No

Interesting subject but hard to understand. It seems that care giving in the hospital is decreasing besides the very low impact of the interventions of the pharmacist. Is that the right conclusion of this investigation?

BAR14-0503
Economic impact derived from the participation in haematology clinical trials in a tertiary hospital

Co-authors
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Background
Participation in clinical trials (CT) could be an economic benefit for the hospital when patients receive sponsored drugs.

Purpose
To analyse the economic impact on the pharmaceutical expenditure that supposes the participation in haematology CT in our hospital.

Materials and Methods
A retrospective observational study involving all the haematological patients who were included in CT from January 2012 to September 2013. The comparator treatment (treatment in clinical practice, in case of not being included in CT) was validated by a haematologist. The cost of drugs administered in CT and the comparator treatment were evaluated. Savings of the hospital was considered by the cost of the comparator treatment based on laboratory price. We also analyzed: type of CT (phase, target) and sponsor.

Results
Of 13 CT ongoing: 4 had no medication dispensed, 2 had no comparator treatment and 7 were eligible for the analysis. Drugs administered were provided by: cooperative groups (65.25%); pharmaceutical companies (34.41%); hospital (0.24%). The total saving was 500,846.39 euros. The main drugs by savings were: bortezomib (59.65%) and imatinib (33.88%). CT phases: 1 CT (Ib/I), 2 CT (II), 1 CT(Ib/I), 1 CT (III), 2 CT (IIIb). The main objective: evaluating the efficacy in patients with: Multiple Myeloma (4 CT); Philadelphia Chromosome-Positive Chronic Myeloid Leukemia in chronic-phase (2 CT); Diffuse Large B-Cell Lymphoma (1 CT). All the above were indicated in newly diagnosed patients. Study limitations: It's
not been taken into account the sharing of vials, the cost of the treatment of possible adverse events and additional visits or diagnostic test to a usual practise.

Conclusions
This study demonstrates the positive economic impact on pharmaceutical expenditure by sponsored clinical trials but it would be necessary consider other issues to avoid overvalue these results.

No conflict of interest

Keywords
clinical trials;haematology;economic impact;

Authors letter
Due to the current time we live in a deep economic crisis and wherein medical resources are scarce, it is necessary consider another alternative that minimize pharmaceutical expenditure in hospitals. The main objective of this study is analysing the economic impact on the pharmaceutical expenditure that supposes the participation in haematology clinical trials in our hospital. Moreover, evaluate types of sponsoring the investigational products and quantify if the clinical trials performance is profitable for National Health Service or it involves another burden added. All of this without forgetting the important contribution of clinical trials regarding the knowledge production and the enormous value for certain patients which don’t have another therapeutic alternative.

Score: 0

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
2.3.
Reason for reject: ; ;

Let’s be clear: a drug treatment with drugs coming from a clinical trial is always cheaper than the classical therapy, only calculated on the drug cost: that’s an axioma.

BARI4-0508
Clopidogrel generic drugs: A Retrospective observational study to investigate the clinical efficacy

Co-authors
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Background
The efficacy and the safety of generic drugs are debated by the scientific community, because their registration procedure is different from that of other drugs, and also because there aren’t many clinical trials that compare generic drugs with branded drugs.

Purpose
The aim of our study is to verify the clinical use of a clopidogrel generic drug vs the branded drug in real life, to investigate if there are any differences about the efficacy and safety profile.

Materials and Methods
Retrospective observational study conduced in the University Hospital of Ferrara (ACUFE). By the analysis of the AOUFE hospital discharge records, we analyzed patients’ hospitalization for cardiovascular and cerebrovascular diseases related to the use of Plavix from 1st January 2009 to 31st December 2010, and those related to the use of clopidogrel generic drug from 1st January 2011 to 31st December 2012. For the study of drug use, we used data deriving from the CPOE of the AOUFE to include patients that started the antiplatelet therapy with clopidogrel in 2009-2012. The primary endpoint is the verification of a new cerebrovascular and/or cardiovascular infarction within 180 days since the beginning of the therapy, and of a second hospitalization.

Results
The study included 713 patients: 409 were in therapy with branded drug (2009-10) and 304 with the generic drug (2011-12). The average age was 70 ±11 (range 30-99); 60% were men and 32% women. The percentage of patients that had a new event after the beginning of the therapy was 6%, in particular 3% of patients (11 patients) in therapy with branded drug had a second cerebrovascular and/or cardiovascular infarction vs 10% of patients (30 patients) in therapy with generic drug (p=0.05 OR= 3.9).

Conclusions
The STUDY, despite all the limits of the observational study, would show that branded drug is more effective than equivalent drug in the prevention of secondary cerebrovascular and/or cardiovascular events (3% vs 10%). The efficacy of antiplatelet clopidogrel-based therapy is confirmed: only 6% of patients had a second event.
Gene polymorphisms associated to clinical and biological response to Infliximab in Crohn Disease.

Co-authors
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Background
Infliximab (IFX), a chimeric mouse/human monoclonal immunoglobulin-G1 antibody against tumor necrosis factor-alpha (TNF-alpha), whose efficacy in Crohn Disease (CD) can be evaluated by clinical biological markes. Several single nucleotide polymorphisms (SNPs) have been associated to IFX efficacy for CD in several studies.

Purpose
To evaluate the clinical efficacy of IFX for CD and the association of SNPs on different genes in recently published clinical trials.

Materials and Methods
Literature review of studies published in the period 2006-2013 focused on association of SNPs and IFX efficacy. The assessment of effectiveness was determined considering the following endpoints: Crohn Disease Activity Index (CDAI) and C-reactive protein (CRP) levels.

Results
Five clinical trials were included, evaluating the following genes: TNFRSF1B (TNF-alpha receptor 1B), TNFRSF1A (TNF-alpha receptor 1A), FCGR3A (FcRRIIB-NA1, FcRRIIB-NA2 isoforms of FcRRIIB receptor, FcRRIIA receptor(CD16) and IL1B.

Two SNPs in TNFRSF1B were found to be associated with good response to IFX: G-allele for rs976881 and G-allele for rs1061622.

In Japanese patients, A-allele for rs767455 (TNFRSF1A) showed efficacy to IFX, with 73% response vs 50%.

VV-genotype for FCGR3A (rs386991) showed better biological response in Caucasians and Japanese patients. This SNP also showed higher antibody-dependent cell-mediated cytotoxicity (ADCC) against TNF-alpha expressing cells, due to a higher binding affinity for IFX in VV cells.

FcRRIIB-NA1 achieved 65% response vs 35% for FcRRIIB-NA2.

C-allele for IL1B (rs1143634) was associated with higher serum IL1B concentration and non-response (86.4% vs 65%).

Conclusions
G-allele for TNFRSF1B (rs1061622), G-allele for TNFRSF1B (rs976881), A-allele for TNFRSF1A (rs767455), VV-genotype for FCGR3A (rs386991) and FcRRIIB-NA1 are associated efficacy to IFX.

VV-genotype for FCGR3A (rs386991) may be utilized as a possible predictor for biological response to IFX treatment.

C-allele for IL1B (rs1143634) may be a possible predictor of inefficacy, representing an inexpensive feasible alternative to conventional cytokines determination.
BAR14-0511
Our experience with fampridine in patients with multiple sclerosis

Co-authors
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Background
Fampridine (4-aminopyridine) improves motor function in people with Multiple Sclerosis (MS).

Purpose
To assess the effectiveness, registered adverse events and adherence to Fampridine in patients with MS.

Materials and Methods
Retrospective study. Patients with MS and disability score (EDSS) between 4-7, treated with fampridine 10mg/12h from April 2012 to September 2013. Effectiveness assessment: timed 25-foot walk (T25FW) and 12-item multiple sclerosis walking scale (MSWS-12) at baseline, 15 days, 3, 6, 9 and 12 months, responder patient: T25FW decrease ≥ 20% and/or MSWS-12 ≥ 4-6 points from baseline. Security assessment: adverse events registered, visits to emergency services and hospitalizations. Adherence assessment according to the pharmacy dispensing ratio.

Results
19 patients. Average age: 61.9 years, 68.4% women. 26.3% Relapsing Remitting MS, 31.6% Primary Progressive MS and 42.1% Secondary Progressive MS. EDSS, TW25F and MSWS average baseline values: 5.92, 21.06 and 47.89 respectively. 3 patients discontinued treatment: 2 after 15 days and 1 after 9 months due to intolerance/ineffectiveness. At 15th day, (n=17 (89%)), TW25F was 13.18 (average reduction 34.26%, 88.2% ≥ 20%) and MSWS-12 was 37.41 (70.6% ≥ 4-6 points reduction). 3 months later, (n=17 (89%)), TW25F was 14.86 (average reduction 33.78%, 78.9% ≥ 20%) and MSWS-12 was 36.65 (82.4% ≥ 4 points reduction and 70.6% ≥ 6). After 1 year of treatment, (n=16 (84%)), TW25F was 14.56 (average reduction 32.0%, 87.5% ≥ 20%) and MSWS-12 was 40.0 (62.5% ≥ 4-6 points reduction). After 1 year EDSS was 5.93. According to the registered adverse events, 41.1% (7/17) of those who continued treatment after 15 days were hospitalized or visited emergency services, 23.5% (4/17) due to urinary tract infection and 23.5% because of dizziness falls (relationship drug/events not evaluated). Treatment adherence was 98.7%.

Conclusions
Fampridine produces a clinical hold-in-time improvement in walking ability and mobility. After 1 year, from the whole patients, in 42% there was a reduction >20% in TW25F, together with a reduction in MSWS-12 >6. Fampridine was well-tolerated.

Conflicts of interest:
Enter Yes or No: No

Keywords
Fampridine; Multiple Sclerosis; Effectiveness;
BAR14-0517

Assessing the impact of pharmacist intervention in the switch of the administration route of paracetamol

Co-authors

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Background

Intravenous paracetamol is indicated for the short-term treatment of moderate and severe pain following surgery and for the treatment of fever. Oral administration (per os- PO) of paracetamol is as effective as intravenous (IV) administration, and should therefore be used as first-line route of administration. The IV preparation has disadvantages from safety, use of consumables and administration time perspectives. The oral route has the disadvantage of variable absorption. The switch from IV to PO route, when possible, should be carried out, considering the availability of oral route.

Purpose

Evaluate the impact of pharmacist intervention in the switch of paracetamol administration route from IV to PO.

Materials and Methods

Prospective study carried out in a 350 bed central hospital in April 2013. All prescriptions of IV paracetamol were analyzed as were the possibility of switch to oral route. The patients were distributed in two groups, one with no pharmacist intervention (no intervention group-NIG) and one in which the pharmacist suggested the switch for oral route to the physician (intervention group-IG). Data were collected and analyzed in SPSS 17.0, and a chi-square test was used to evaluate the significance of pharmacist intervention. The suspended prescriptions and those with no physician review during study period were excluded.

Results

There were 241 paracetamol IV prescriptions (58 NIG/ 183 IG). In NIG, 31 prescriptions had indication to switch to oral route only 2 changed and, in IG, 94 prescriptions had indication to switch to oral route and 38 changed (6.5% NIG, 40.4% IG, p< 0.001; CI 99%).

The largest percentage of accepted interventions was in surgery wards, 48.6% versus 35.6% in medical wards. In the NIG the percentage of switch was 6.3% in surgery wards and 6.7% in medical wards.

The pharmacist intervention led to the reduction of 114 DDD and by thirty times below the initial cost.

Conclusions

The intervention was well accepted by the medical team and increased by six times the switch of IV to PO route.

There was a statistically significant difference between the groups, suggesting that the intervention of the pharmacist is important in changing the route of administration of paracetamol, contributing to the improvement of its use in the hospital.

No conflict of interest

Keywords

paracetamol;switch;pharmacist intervention;

Authors letter

Relevance: The current study demonstrates the significance of pharmacy intervention in the hospital setting. Innovation: Although the pharmaceutical interventions constitute a daily practice of the pharmacist, the evaluation of their impact is not always shown. For this reason we think that the present study is innovative. Implication for future hospital pharmacy practice of the abstract: As it represents a way to improve the use of IV paracetamol and reduce its cost it is important to implement this type of intervention and to extend it to other drugs.
**BARI14-0520**

Pharmaceutical analysis of assistance on reconciliation of pediatric medication

**Co-authors**

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**Background**

Medication reconciliation is an opportunity to reduce medication errors and to develop a comprehensive pharmaceutical care.

**Purpose**

Detect and analyse potential medication errors in a pediatric court at the time of admission.

**Materials and Methods**

Intervention and prospective study reviewing the daily income of pediatric patients in a tertiary university hospital between May and July 2013. The patients with active medication were selected and compared their prescriptions with medication prescribed in hospital. Prescriptions were verified by clinical interviews. Differences were categorized into no discrepancies or discrepancies. Also discrepancies into justified or unjustified. The unjustified were defined as drug omissions or drug interactions detected while justified were due to the patient's clinical situation. The unjustified discrepancies were communicated to pediatricians in order to adjust patient's prescription if appropriate. Data collection was classified by date, patient (age and sex), and medication (dose and route of administration). It was also measured time in which discrepancies were detected and gravity measured by pharmaceutical criteria in a scale from 1 to 3, representing 3 a low impact in the patient. An exclusion criteria was less than 24 hours hospitalization.

**Results**

A total of 30 patients were analysed, 18 boys and 12 girls, with a mean age of 8.6 years, with 47 medical prescriptions. Clinical interviews were applied to 11 patients. Of 47 prescriptions, 11 (23.4 %) were categorized as no discrepancies, 17 (36.1 %) as justified discrepancies and 19 (40.4 %) as unjustified discrepancies. Of the 19 unjustified discrepancies, 18 resulted from a drug omissions and 1 drug interaction was detected. From the 19 unjustified discrepancies, 11 (57 %) were communicated, accepted and prescribed by pediatricians. The most common drug groups were antimicrobials and inhaled therapies and the mean days of discrepancy was 0.29 with a mean of gravity of 2.4.

**Conclusions**

From a total of 47 medical prescriptions, 11 (23%) were potential medication errors. We believe further analysis to implant reconciliation medication in pediatrics may be important in order to optimize medical prescription.

No conflict of interest

**Keywords**

pediatrics;reconciliation;medication;

**Authors letter**

Many studies have showed the importance of reconciliation medication as an important achievement in pharmaceutical care. One of the causes of medication errors is the lack of communication about drug treatments among health professionals of different levels of care and the same patient and/or family and caregivers. Besides, pediatric patients are vulnerable to any error medication. In order to detect this potential errors we develop this study to analyse them and show that reconciliation can avoid these errors and ensure patient safety.

Score: 120

Remarks all reviewers:

Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
2.
Reason for reject: ; ;
Incidence and prevention of venous thromboembolism in surgical breast cancer patients

Co-authors
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3NorthShore University HealthSystem, Division of Vascular Surgery, Evanston, USA.

Background
Venous thromboembolism (VTE) is a serious and potentially fatal consequence of certain disease states and medical interventions, including hospitalization and surgery. Surgical interventions are classified as high, moderate and low risk interventions. Although breast cancer surgeries represent a lower risk when compared with abdominal and pelvic interventions, there are no consensus available with regard to thromboprophylaxis.

Purpose
The present non-interventional prospective cohort trial aimed to estimate the incidence of symptomatic VTE and to assess tolerability of available low molecular-weight heparins (LMWHs) in patients who received thromboprophylaxis after breast cancer and/or oncoplastic/reconstructive surgery. Primary outcome was the rate of VTE during the follow-up period of 3 months. Secondary outcomes were the evaluation of safety and tolerability of LMWHs postoperatively, the assessment of patient adherence and common practices with regards to administration, storage and disposal of LMWHs.

Materials and Methods
One hundred and forty consecutive patients who underwent surgery for breast cancer and received LMWH at the department of breast and sarcoma surgery of a single comprehensive cancer centre were assessed and followed up for a median of 137 days between 20 December, 2012 and 1 July, 2013. Every patient received the standard of care. VTE risk factors as per the Caprini risk assessment model were identified for each patient preoperatively and were used to calculate a risk score. Tumour subtype and stage, type of surgery, clotting parameters, pre-existing VTE risk factors, the occurrence of bleeding complications were recorded. Patients also filled in a 14-item questionnaire.

Results
No cases of VTE were recorded. Major bleeding complications were seen in 16.4% of the patients, while pain and bruising associated to the administration of the subcutaneous injections were experienced by 30.7% and 36.4%, respectively. No patients reported any missed doses of LMWH, but 20% reported multiple diversions from the official instructions of administration, and 22.9% disposed of the used syringes in the household trash.

Conclusions
The safety of LMWHs in the prevention of VTE in this patient population is evident, although bleeding complications were recorded with a relatively high rate. The application of appropriate doses and treatment durations determined according to individual assessment of patients balanced against bleeding complications seem to be a very safe approach to prevent VTE in surgical breast cancer patients. Further investigation is needed.

No conflict of interest

Keywords
breast cancer surgery; thromboprophylaxis; low molecular-weight heparins;

Authors letter
(1) Cancer itself produces a hypercoguable state, thromboprophylaxis is an essential element of supportive and palliative care. Breast cancer surgery is becoming more and more sophisticated and quality of life of a large portion of these patients can be very high. Individual assessment and appropriate thromboprophylaxis with the least bleeding complications are therefore relevant and important points. (2) We suggest that an individually prescribed dosing is relevant to breast cancer patients, often meaning lower doses than in other cancer types such as those affecting the gastrointestinal tract or lungs. (3) The time consuming assessment of VTE risk and individual dosing can be performed by specialist pharmacists.

Score: 120

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted
Nominee: No
BARI14-0530

prescription of psychotropic drugs in patients residing in a nursing home

Co-authors

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Background

For an elderly person, the multiple diseases are a source of polypharmacy; in particular the psychotropic drugs are prescribed more in the elderly with behavioural disorders. Many studies have proven that the use of means of restraint, both physical and pharmacological, exposes the individual to a worsening of the functional status and an increase of the accidents.

Purpose

The aim of this study is to assess the use of psychotropic drugs in a nursing home, in relation to the prescription of means of protection and the prescriptive consistency with the condition of the patients.

Materials and Methods

A group of 515 patients (86.2 years old ±7.6 ds) residing in the nursing home of the Institute Palazzolo Fondazione Don Gnocchi, were chosen as a sample. Information were gathered regarding the prescription of the pharmaceutical therapy and the use of means of individual protection. Patient's conditions were detected through a cognitive assessment (Mini Mental State Examination) and a SOSIA (classification of the frail elderly in nursing homes of Region of Lombardy).

Results

Prescription of benzodiazepine and antidepressants is associated with a large number of medicines taken by each patient. Prescription of benzodiazepine (51.1%) and antidepressants (39.4%) is prevalent in patients with MMSE > 10; prescription of neuroleptics is not correlated to the number of drugs, but to the presence of great cognitive disorder (36.6% MMSE < 10 takes neuroleptics vs. 21.1% with MMSE > 10). Prescription of means of protection was not correlated to the number of medicines taken as well but to the severity of cognitive level.

Conclusions

The individuals who have more comorbidity and take more medicines have a higher probability to get prescriptions of benzodiazepine and antidepressants, while the individuals with a lower comorbidity and a worst cognitive disorder have a higher number of prescriptions of neuroleptics and means of protection.

No conflict of interest

Keywords

polypharmacy; elderly; behavioural disorders;

Authors letter

Score: 140

Remarks all reviewers:

Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted.
Nominee: No

BARI14-0535

GnRH (LHRH) (ant)agonists in prostate cancer. Drug selection by means of the SOJA method

Co-authors

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Background

Patients with high-risk or locally advanced prostate cancer should be treated with hormone treatment for at least 2 years. Proper drug selection is a key factor in successful treatment.
at least 2 years. Rational drug selection in this drug class is therefore important.

**Purpose**  
The SOJA method was applied to GnRH (LHRH) antagonists.

**Materials and Methods**  
The following drugs were included in the analysis: buserelin, goserelin, leuprolide, triptorelin, abarelix and degarelix. Selection criteria were: Clinical efficacy (300 points), safety (200), tolerability (120), dosage frequency (80), user friendly formulation (80), drug interactions (60), precautions (60) and documentation (100). Acquisition cost was not taken into consideration to allow a preselection on quality aspects only.

**Results**  
Goserelin and leuprolide showed the highest scores and are most suitable for formulary inclusion. Acquisition cost should be the determining factor in the final selection.

**Conclusions**  
The recent introduction of generics may be favourable to reduce drug expenditure in the treatment of prostate cancer.

Conflict of interest:  
Enter Yes or No: No

**Keywords**  
Generics; Drug selection; Drug formulary.

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**Background**  
The antiasthmatic therapy with omalizumab carries a great economic impact. Due to dispensation transfer of omalizumab from community pharmacy to hospital in April 2012, the expenses have been increased and a good fitness of prescriptions to indications approved in data sheet is absolutely necessary.

**Purpose**  
To assess the difference of pharmaceutical spending related to omalizumab, before and after the transfer to hospitalary dispensation, and check whether a proper use is based on the indications approved in data sheet.

**Materials and Methods**  
Firstly, omalizumab spending was assessed in Granada during 2 periods of time: 1º, from April 2011 to March 2012, and 2º, from April 2012 to March 2013. Secondarily, treatment prescriptions were evaluated in 72 patients who began or continued the dispensation with omalizumab in April 2012. The dates were obtained of the patient medical history when the patients started the treatment. The collected variables are indicated in data sheet: diagnosis, age, skin testing or in vitro testing for allergen-specific (STAS), forced expiratory volume in 1 second (FEV1), nocturnal symptoms (NS) and prevalence of exacerbations, pretreatment with inhaled glucocorticoids (ICS) and long-acting beta-agonist (LABA), and dosage adjustment determinate by body weight and total serum IgE level (SEIL).

**Results**  
Economic impact. Expenses of first period: 709,331€. Expenses of second period: 1,254,655€. Increase spending: 545,324€ (76,87%).  
Level of fitness. 67 of 72 patients (89,33%) were diagnosed of severe asthma and the other 5 (5,94%) of other pathologies. All patients except one were older than 6 years. Positive STAS: 46 patients (63,88%).
and negative or unmeasured STAS: 29 patients (37.5%). FEV1 <80%: 25 patients (34.72%), and FEV1 >80% or unmeasured in 47 patients (65.27%). Absolutely all patients (100%) submitted NS and frequently exacerbations. The 91.66% of patients took pretreatment with ICS and LABA. In accordance to SEIL, the range approved is between 30 and 1500 IU/ml, although only 40 patients (55.55%) were within rate and the other 32 patients were out range or not measured SEIL. Dosage adjustment had been correct in 11 patients (11.27%).

Conclusions
Only 2 of 72 patients perform all requirements indicated in data sheet. The great economic impact and the evolution of spending in Granada (Spain) in omalizumab imply a rational drug use through all Services involved in prescription and dispensation of this medicine.

Conflict of interest:
Enter Yes or No: No

Keywords
omalizumab;impact;prescription;

Authors letter
Omalizumab presents a great economic impact. The explanation may be the incorrect use of this medicine. So, to control the prescriptions and dispensations is absolutely necessary.
Methicillin-resistant Staphylococcus aureus (MRSA) complicated skin and skin-structure infection (cSSSI)

is a prominent infection encountered in hospital and outpatient settings that is associated with high resource use for the health-care system. cSSSIs are primarily caused by gram-positive bacteria, including Staphylococcus aureus and β-hemolytic streptococci. It's been assessed that in Italy people affected by cSSSI, right-sided infective endocarditis (RIE), S.Aureus Bacteremia(SAB)/SEPSIS are about 258,000.

**Purpose**

An economic model was performed to evaluate the cost-efficacy of Daptomycin and the standard therapy (ST):vancomycin, linezolid, teicoplanin and other antibiotic use in cSSSI, RIE, SAB/SEPSI. The study was performed at Città della Salute e della Scienza Hospital, in Turin, Italy.

**Materials and Methods**

Data were obtained from 955 Hospital Discharge Records in a retrospective, observational, non-interventistic study since 2011. We conducted an evaluation of most Gram-positive’s therapy for 171 hospitalized patients with cSSSI in Medicine and Endocrinology Ward. A number of different parameters were used to populate the model. These include: antibiotic treatment costs, length of therapy, length of stay, AE related costs, methicillin-resistant S.aureus (MRSA) rates, number of laboratory tests.

**Results**

Clinically evaluable population included 32 patients who received daptomycin and 74 treated with standard therapy. Most of patients in both groups achieved clinical success by the end of therapy. Among patients receiving daptomycin vs patients treated with ST, median duration of therapy was 4 and 7 days, respectively, and hospital costs were 13500€ and 14700€.

**Conclusions**

Patients receiving Daptomycin achieved more rapid resolution of clinical cure and had a decreased duration of in-patient therapy, requiring an average of 3 days less antimicrobial therapy, compared with standard therapy for complicated skin and skin structure infections. This study suggests that daptomycin is a cost-effectiveness alternative to ST.

Conflict of interest:
Enter Yes or No: No

**Keywords**

cost-analysis; Daptomycin; Skin and Skin-Structure infections;

**Authors letter**

Methicillin-resistant Staphylococcus aureus (MRSA) complicated skin and skin-structure infection (cSSSI) is a prominent infection encountered in hospital and outpatient settings that is associated with high resource use for the health-care system. An incorrect use of daptomycin, as well as lead high cost for health care system it might to increase bacterial resistance for most of gram+ species.
BAR14-0547
Patterns of use and associated costs of biological agents for rheumatic diseases in clinical practice in Spain

Co-authors
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Background
Biological agents are increasingly used to treat rheumatic diseases. The cost of these long-term treatments is high and new approaches for treatment optimization are being explored.

Purpose
To analyze national data on the patterns and associated costs of the biological agents used in Spain for rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis.

Materials and Methods
Data from nine Spanish hospital pharmacy departments (April-2012/March-2013) were analyzed; 3200 patients were included. Mean costs were obtained per patient and year. Theoretical costs were calculated from labeled doses and treatment duration for each indication, multiplied by manufacturer's price (+taxes, –discounts). Real costs were calculated using individualized pharmacy dispensation data.

'Intensive treatment' was considered as doses >15% of that labeled, 'standard treatment' = labeled dose ±15% and 'optimized treatment' <15% of datasheet specification.

Results
The percentage of patients on standard or modified treatment, annual associated costs and comparison with theoretical costs are shown in the table.

Conclusions
The real cost of adalimumab and etanercept is lower than the theoretical cost due to their high percentage of optimized treatments across indications. In rheumatoid arthritis, abatacept and tocilizumab treatments are also often optimized and the cost thus reduced. The highest degree of optimization with etanercept implies the greatest cost reduction in these three diseases. However, administration of biological agents in intensive doses increases their cost.

Table

<table>
<thead>
<tr>
<th>Treatment (O/S/I)</th>
<th>Annual cost T/R</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rheumatoid Arthritis</strong></td>
<td></td>
<td></td>
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<tr>
<td>Abatacept</td>
<td>41/49/10</td>
<td>€12561/€10734</td>
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<td>Adalimumab</td>
<td>34/60/6</td>
<td>€12860/€11728</td>
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<td>16/48/38</td>
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<tr>
<td>Etanercept</td>
<td>45/52/3</td>
<td>€11846/€9690</td>
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<tr>
<td>Golimumab</td>
<td>6/7/6/18</td>
<td>€12895/€13505</td>
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<tr>
<td>Infliximab</td>
<td>18/61/21</td>
<td>€11737/€12131</td>
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<tr>
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<tr>
<td>Etanercept</td>
<td>49/47/3</td>
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11/4/13

Scores:

Golimumab 17/56/28 €12895/€13134 +2%

Infliximab 12/71/16 €11737/€13395 +14%

O/S/I= % of patients on optimized/standard/intensive treatment; T/R=theoretical/real costs

Source: Pfizer,S.A. based on IMS Health,S.A. data

Conflict of interest:
Enter Yes or No: Yes
Ownership: All authors are Pfizer employees

Keywords
rheumatic diseases;pharmacoeconomics;biological drugs;

Authors letter
(1) Biological agents are increasingly used to treat rheumatic diseases. The cost of these long-term treatments is high, so information on cost-effectiveness and optimization of resources is needed. (2) Biological treatments often require modification of patterns, either intensifying or reducing labeled doses and/or intervals. We present an economic analysis of real practice, including the actual pattern modifications of several biologics in three rheumatic diseases: rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis. (3) This information is useful for decision making on the treatment of rheumatic diseases in the present scenario.

Score: 80
Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted, but Author modifications
Nominee: No
Better clarification of the data.Conflict of interest in relation to the data?

BAR14-0549
Effectiveness assessment of first-line treatment in metastatic colorectal cancer according to mutational KRAS status
Co-authors
A. Escolano¹, M. Castiella¹, I. Navarro¹, I. Larrodé¹, V. Gimeno¹, M.J. Agustin¹.
¹Universitary Hospital Miguel Servet, Pharmacy Service, Zaragoza, Spain.

Background
KRAS gene mutations are associated with a worse metastatic colorectal cancer (mCRC) prognosis.

Purpose
To assess the effectiveness of the first-line treatment of mCRC according to KRAS mutational status.

Materials and Methods
Retrospective and observational study. It included patients who started a chemotherapy treatment for mCRC from October 2011 to Juny 2012. Effectiveness measure was the progression-free survival (PFS) median and response rate measured by RECIST criteria.

Results
79 patients. Mean age at diagnosis: 66 years old, 54% men. Median PFS was 11 months. 88.6% of the patients were determined for KRAS mutational status, of which 52.9% was mutated. PFS median was 13 and 10 months in mutated and wild-type KRAS patients respectively. Although statistically significant differences were not found for a 95% confidence interval (CI) (p=0.058), it is considered as a trend. Parcial Response (PR) percentage was developed by 50% and 54.5% of wild-type and mutated KRAS respectively. Wild-type KRAS patients were treated with cetuximab/panitumumab, bevacizumab or other regimes in 36.4%, 33.3% and 30.3%. In wild-type KRAS group, PFS median was 14 and 10 months in cetuximab/panitumumab and bevacizumab treated patients respectively (p=0.136). PR percentage in wild-type KRAS patients was developed by 50% and 54.5% of patients treated with cetuximab/panitumumab and bevacizumab respectively. In both groups, treatment was mostly associated to oxaliplatin and 5-fluouracil or capecitabine.

Conclusions
PR rates and median PFS are similar in wild-type KRAS patients regardless of the targeted therapy used. There is an almost statistically significant trend to higher median PFS in wild-type KRAS patients, according to the worse prognosis in mutated KRAS patients.

Conflict of interest:
Enter Yes or No: No
Keywords
Metastatic Colorectal Cancer; Effectiveness; kras;

Authors letter
Colorectal cancer is one of the most common neoplasia in western countries. It is the second leading cause of cancer-related deaths after lung cancer in men and breast cancer in women. Mutational KRAS status suggest patient's prognosis (mutated status suggests worse prognosis than wild-type status) and its determination leads to the appropriate treatment. It is important to establish the effectiveness in the different targeted therapies in wild-type KRAS patients.

Score: 120
Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted
Nominee: No

BAR14-0554
POMALIDOMIDE : EVALUATION ON TOLERANCE AND EFFICIENCY AFTER ONE YEAR OF USE
Co-authors
A. Razurel1, C. Giraud1, I. Ferry1, L. Escalup1.
1Centre René Huguenin-Institut Curie, Pharmacy, 92210 Saint Cloud, France.

Background
Pomalidomide is a new antineoplastic per os, which has a similar structure of Thalidomide. It provides a last therapeutic line in the coverage of Multiple Myeloma (MM), after Thalidomide, Bortezomib, or Lenalidomide.

Purpose
The objective of this work is to estimate the tolerance and efficiency of Pomalidomide after a period of one year of use under the status of Temporary Use Authorization (TUA), and on a cohort of patients with MM who have relapsed.

Materials and Methods
The analysis has been conducted retrospectively from August, 2012 to September, 2013. The protocol of therapeutic use provided by the laboratory indicates that a follow-up of the rate of polymorphonuclear neutrophil (PMN) and platelets should be directed. On one hand, biological tolerance is estimated from the complete blood count (CBC) of patients (1/month), and on the other hand, clinical tolerance is estimated from the clinical and therapeutic data existing in the medical files. Efficiency is calculated from the rate of complete Ig on serum protein electrophoresis (SPE) or incomplete Ig ie FLC measured by immunofixation.

Results
Five patients, 2 men/3 women (P1, P2, P3, P4, P5) are treated with Pomalidomide on 6th and even 8th line treatment. 3/5 patients present a MM of complete Immunoglobulines (Ig) and 2/5 have a MM of free light chains (FLC). The initial dosage of Pomalidomide complies with the recommended regimen (4mg/day during 21days/28) associated with an anthithrombotic. In terms of biological tolerance, 5/5 patients present a neutropenia (2 grades III / 3 grades IV) and a thrombocytopenia (3 grades 0 / 2 grades IV) during the first month. 4/5 patients again a neutropenia (3 grades III / 1 grade IV) and 3/5 patients a thrombocytopenia (1 grade I / 2 grades II) during the second month of treatment. In terms of clinical tolerance, adverse effects are identified: neuropathy of lower members grade III, paresthesia grade I, faintness, dizziness, daytime sweatings, bronchospasms, coughs, intermittent diarrheas, infections, peelings. In terms of efficiency, the SPE of 3/5 patients shows a decrease of the rate of complete Ig (P1: 49.2 to 4.7 g/l, P2: 16.4 to 4.8 g/l, P3: 42.4 to 35.7 g/l) within one year. The FLC rate decreases for P4 (1204 to 670 mg/l) and increases for P5 (850 to 1600 mg/l) within one year too. All in all, P1 and P4 have had prosecutions of treatment, P2 has benefited an allograft of hematopoietic stem cells (HSCs), P3 has died and P5 is in therapeutic escape.

Conclusions
5/5 patients presented at least one serious adverse effect during the treatment. The adjustment of dosage improves haematological tolerance but creates an ascertainment of the peak of Ig or FLC hence the need to increase the posology under cover of G-CSF. Pomalidomide has demonstrated its efficiency and obtained its Marketing Authorization (MA) in August, 2013 in 3rd therapeutic line.

No conflict of interest

Keywords
Pomalidomide; Efficiency; Tolerance;

Authors letter
The Protocol of Therapeutic Use of Pomalidomide indicates that biological and clinical monitoring should be performed before and during the treatment. The aim of this work is to establish a current situation and to inform healthcare professionals on the use of Pomalidomide after a year of use, in order to adapt and to standardize their practices concerning the management of patients with multiple myeloma.
Background
Colorectal cancer is a major cause of morbidity and mortality worldwide. Treatment of metastatic colorectal cancer (mCRC) bases on the different use of chemotherapeutic regimes based on capecitabine or 5-fluorouracil and folinic acid in combination with irinotecan and oxaliplatin adding monoclonal antibodies.

Purpose
To assess the effectiveness and safety of first-line treatment of metastatic colorectal cancer.

Materials and Methods
Retrospective, unicentric and observational study including patients with a first-line treatment for mCRC from October 2011 to June 2012. Collected data: demographic variables: age and sex; clinical variables: tumor and metastasis location, differentiation degree, ECOG performance status and mutational KRAS status; effectiveness variables: progression-free survival (PFS), response rate measured by RECIST criteria and 1 year overall survival (OS); safety variables: reduction, delay and withdrawal of treatments percentage, major adverse events and its severity by CTCAE version 4.02 scale.

Results
79 patients. Mean age at diagnosis: 66 years old. Median PFS and 1 year OS were 11 months and 81% respectively. 13 and 9 months were the median PFS in older and younger than 60 years old subgroups patients respectively (p=0.032). Median PFS was not reached in grade 1 tumor differentiation patients and it was 10 months in grade 3 tumor differentiation patients (p=0.045). Median PFS were 14 and 9 months in surgery rescued and no surgery rescued patients respectively (p=0.032). 69.6%, 50.6%, 44.3%, 44.3%, 43%, 43% and 39.2% of all treated patients developed neuropathy, mucositis, proteinuria, hand-foot syndrome, anemia, neutropenia and diarrhea respectively. This led to a reduction, cancel and delay of drug dosage in 31.6%, 25.3% and 48.1% of the patients respectively.

Conclusions
The choice treatment is determined by several factors: therapeutic intention, KRAS mutational status, previous treatments, patient status and drugs contraindications, dosing adjusting to the patients daily life…etc. Generally treatments have a low toxicity and they are well tolerated.

Conflict of interest:
Enter Yes or No: No

Keywords
Metastatic Colorectal Cancer;Effectiveness;Safety;

Authors letter
Colorectal cancer is one of the most common neoplasia in western countries. It is the second leading cause of cancer-related deaths after lung cancer in men and breast cancer in women. Once known efficacy determined by clinical trials, our interest focus on the effectiveness in routine clinical practice. It is relevant for us to know how our patients respond to treatment in terms of effectiveness and safety so as to extrapolate our results to other hospitals with similar characteristics.

Score: 80
Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
2.3.
Reason for reject: ;;
BAR14-0557
Impact of a medication revision group in the medical prescription in a socio-sanitary centre

Co-authors
C. campabadal prats1, A. camacho calvente1, D. ferrandez marti1, R.M. pares marimon1, J. serrais benavente1, A. perello juncà1.
1HOSP. D'Igualada, pharmacy, Barcelona, Spain.

Background
The geriatric population with high degree of comorbidity is exposed to a greater risk of suffering any problem related to medication.

Purpose
To evaluate the impact of a medication revision group in the medical prescription during the admission to a socio-sanitary centre in patients with high degree of comorbidity.

Materials and Methods
The medication revision group consists of a nurse, a doctor and a pharmacist. It meets once per week and it analyzes the medical prescription prior to the admission and the recommendations at the hospital discharge of the patients that have admission or discharge provided.

Patients with high degree of comorbidity are selected through the Charlson criteria > 3.

Stop-start criteria are applied on the medication prior to admission and on the recommendations at the hospital discharge.

Medical prescription previous to admission is obtained from electronic prescription and the prescription at the hospital discharge is obtained from discharge report.

Data are treated with statistical program sps. A lack of differences between admission and discharge is considered as a current hypothesis; a significance level p<0.05 could reject the current hypothesis.

Results
99 patients were evaluated with an average age of 82 years; 22 were excluded for being exitus and 4 due to a lack of data.

All 73 included patients have a comorbidity >3, averaging 6.3 points in the Charlson criteria.

A total of 74 Stop and 17 Start were found in previous admission prescriptions. At the time of hospital discharge, 46 Stop and 26 Start were founded.

Statistically significant differences were obtained in Stop criteria (p= 0.00), but not in Start criteria (p= 0.630).

Conclusions
The medication revision group obtained significant results in the improvement of medical prescription according to Stop criteria.

No conflict of interest

Keywords
geriatric patients; stop-start; medication revision group;

Authors letter
The geriatric population with high degree of comorbidity is exposed to a greater risk of suffering any problem related to medication. Patients with high degree of comorbidity are selected through the Charlson criteria > 3. Stop-start criteria are applied on the medication prior to admission and on the recommendations at the hospital discharge. Statistically significant differences were obtained in Stop criteria (p= 0.00), but not in Start criteria (p= 0.630). In a future all hospitals should apply Stop Start criteria in all geriatric patients. Medication revision group achieve important results.

Score: 140
Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted, but Author modifications 2

Modifications needed:
Nice subject but more information and data are needed to accept the abstract
The use of oral solid medicines in European neonatal units, based on European Study for Neonatal Excipient Exposure (ESNEE).

Co-authors
I. Mesek¹, G. Nellis¹, I. Lutsar¹, J. Lass².
¹Institute of Microbiology, University of Tartu, Tartu, Estonia.
²Pharmacy Department, Tartu University Clinics, Tartu, Estonia.

Background
Due to the lack of age-appropriate formulations for neonates, extemporaneously modified oral drugs (e.g. crushed tablets or opened capsules) are used in the hospitals.

Purpose
To assess the extent of use extemporaneously modified oral solid products in the European neonatal units, to assess the regional variability and possibilities for substitution with age-appropriate formulations.

Materials and Methods
The study was based on the ESNEE database. Within 3 consecutive days from May to September 2011 all medicines used in 153 neonatal units of 21 European countries for subjects aged ≤ 28 days were recorded. The database contains information about medications trade name, manufacturer, active ingredients, strength, galenic form, route of administration and code of neonatal department. The data about solid oral drugs was extracted from the database, the regional differences (Northern, Southern, Eastern, Western countries) and possibilities for tablets substitution were assessed.

Results
One third (34%, n=428) of all 1254 products were administrated orally. Of them 148 were oral solid products - 46% (n=68) were powders or granules, 34% (n=51) tablets and 20% (n=29) capsules. According to the ATC classification, alimentary and cardiovascular medicines accounted for the majority of the oral solid products (32%; n=48 and 24%; n=35, respectively). Most common orally used solid products were folic acid, spironolactone and phenobarbital. Regional differences were minor, the proportion of tablets counting from 2% (Northern) to 6% (Eastern Europe) of all used medicines. In 69% of cases an age-appropriate substitution for tablet containing same active ingredient was available in European market.

Conclusions
The use of extemporaneously modified solid oral medicines is common in European neonatal units demonstrating a potentially hazardous practice due to the lack of information about the bioavailability and stability of such products.

Conflict of interest:
Enter Yes or No: No

Keywords
neonates; extemporal modification;

Authors letter
The use of extemporaneously modified solid oral medicines is common in European neonatal units, demonstrating a potentially hazardous practice due to the lack of information about the bioavailability and stability of such products. We assessed the extent of use of extemporaneously modified oral products in different European neonatal units and possibilities for age-appropriate substitution for the use of tablets. Based on our data, there are possibilities to offer children safer medicines.

Score: 80

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
2.3.
Reason for reject: ;
Nice to know but nothing because this is the well know reality in these services. This information could stimulate the pharm industry to give more attention to this population of patients but in reality things doesn't change.
Background
Cancer is a major cause of morbidity and mortality in Ireland. In recent years, there has been a significant increase in the number of oral anti-cancer medicines (OAM) available with patient preference the primary driver behind this increase. Along with this increase in prescribing, there are associated safety concerns surrounding OAM. The key safety concern is linked to the fact that OAM are not managed to the same strict standards as parenteral chemotherapy, with a lack of checks in the medication management of OAM. The involvement of pharmacists in oncology multi-disciplinary teams (MDTs) is recognised as a means to implement risk reduction strategies for the management of OAM.

Purpose
The aim of this study is to ascertain the most appropriate use of a pharmacist’s skills and knowledge to help improve the safe use of oral anti-cancer therapy to patients attending an oncology out-patient clinic.

Materials and Methods
Data collection in this project focused on three aspects:

1. Pharmacist involvement in a MDT oral chemotherapy review clinic
2. Patient questionnaire to determine patients views and attitudes towards the current system of prescribing and dispensing chemotherapy in Beaumont Hospital, Dublin and to assess their views on the role of a pharmacist with respect to their oncology care
3. Questionnaire for medical and nursing staff to ascertain their opinions on the current system for OAM management and their views on the role of a pharmacist within an oncology out-patient clinic

Results
A total of forty-six patients, which generated seventy-one patient episodes, were reviewed by the pharmacist in the oral chemotherapy review clinic. The pharmacist performed one hundred and fifty-two interventions, with the greatest number of interventions occurring during the patient consultation phase. Patients reported a significant positive impact on their care following their attendance at the MDT oral chemotherapy review clinic. Patients acknowledged that they would like to meet a pharmacist in the review clinic and suggested the provision of advice on adverse effects and their management as the most vital role a pharmacist could play in their care. Staff responding to the questionnaire highlight safety concerns relating to OAM management in Ireland – 80% report a need to alter the current system with the clinical review of OAM prescriptions by oncology pharmacists identified as the most effective tool to improve the system. 100% of staff acknowledge that a pharmacist should be an integral member of the oncology MDT.

Conclusions
The pharmacist has a significant role to play in a MDT oral chemotherapy review clinic. Although the number of interventions performed during prescription and OAM review are low, the consequence of the interventions are significant. The greatest number of interventions surround the provision of education and advice to patients – the provision of pharmaceutical care is thus seen as a vital role of the pharmacist within the clinic. For patients, it is the provision of advice and education which is most paramount. Patients view quality of services and information provided as more significant than assurances on safety alone. Staff surveyed have serious concerns regarding the safety of the current system for medication management of OAM. They believe the pharmacist can play a significant role in addressing these safety issues through enhanced communication with community pharmacists and clinical verification of OAM prescriptions by specialist oncology pharmacists.

Conclusion: The results of this study suggest several roles for a pharmacist to utilise their skills and knowledge to improve the services to patients on oral chemotherapy. These roles include: a specialist oncology pharmacist as a full member of the oncology multi-disciplinary team; a referral and liaison pharmacist to improve communication between primary and secondary care; and the utilisation of a pharmacist’s unique skills and knowledge to develop protocols and implement standards to improve service delivery on a local and national basis.

Conflict of interest:
Enter Yes or No: Yes
Ownership: Place of employment

Keywords
Oral chemotherapy; Patient safety; Multi-disciplinary team;

Authors letter
(1) Oral chemotherapy is a new & emerging area of oncology care, with significant potential for errors (2) The direct involvement of a pharmacist in the management of a largely out patient managed care system is a new approach to improving the quality of service delivered to these patients (3) Enhanced involvement in the delivery of a first class oncology service to patients

Score: 140

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted, but Author modifications
Nominee: No

More data coming from the survey are needed to accept the abstract.2 x conclusion: reason?
Hospital pharmacist’s interventions in a central hospital

Co-authors
A. Parrinha1, M. Lobo Aves1, R. Branco1, I. Goulão1, C. Fernandes1, C. Lopes1, B. Madureira1, P. Cavaco2, S. Santos1, S. Carreira1, E. Vegas1, F. Falcão2.

1Hospital de S. Francisco Xavier, Pharmacy, Lisbon, Portugal.
2Centro Hospitalar de Lisboa Ocidental Faculty of Pharmacy Lisbon University, Pharmacy, Lisbon, Portugal.

Background
Several studies have demonstrated the positive impact of clinical pharmacy services in the hospital setting. Interventions by clinical pharmacists have shown to reduce the frequency of drug related problems.

Pharmacist intervention (PI) is defined as a professional activity performed by pharmacists, directed towards improving the quality use of medicines and resulting in a recommendation for a change in the patient’s medication therapy.

Purpose
This study was conducted in order to characterize all PIs recorded in the electronic medical record and quantify its acceptance by medical team.

Materials and Methods
An observational, retrospective study was carried out in a 350 bed central hospital, between January and June 2013. All the PIs registered in the electronic medical record during the study period were eligible for inclusion; verbal PIs and related to clinical pharmacokinetics were excluded.

Results
There were 1449 PIs performed during the study period. The majority of these PIs reached the following therapeutic classes, antibacterial (25%), CNS (24%), cardiovascular (18%) and blood (9%). One hundred forty-seven drugs were targeted intervention; acetaminophen (18%) was the subject of pharmacist interventions largest number, followed by enoxaparin (13%) and amoxicillin/clavulanic acid (10%). When we looked at the type of intervention found that mostly corresponded to dose adjustment for renal failure (29%), change of administration route (24%) or other dose adjustment (9%). Discharge, transfer between clinical services and drug discontinuation led to only be possible to assess 69% of interventions performed with an acceptance rate of 48%.

Conclusions
Our results, in particular those referring to dose-dependent problems, confirm the need for pharmacotherapy follow-up. From this study it can be concluded that a high percentage of PIs are focused on a limited number of drugs, suggesting the need of implementing specific measures, namely use recommendations in order to improve drug usage, once the ultimate goal of PI is to achieve real health outcomes for each patient by promoting rational use of medicines.

No conflict of interest

Keywords
pharmaceutical intervention; drug validation; clinical pharmacy.

Authors letter
1. Relevance The current study demonstrates the significance of pharmacy intervention in the hospital setting. 2. Innovation Although the pharmaceutical interventions constitute a daily practice of the pharmacist, the evaluation of its acceptance by the physician is not always analysed. For this reason we think that the present study is innovative. 3. Implication for future hospital pharmacy practice of the abstract IPs may contribute to improve the use of prescribed drugs and to maximize the safety and effectiveness of drug therapy.

Score: 100

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
2.
Reason for reject: ;

BAR14-0576

Efficiency of a protocol to prevent delayed chemotherapy-induced emesis

Co-authors
S. Fenix-Caballero1, C. Martinez-Diaz1, MA. Blanco-Castaño1, E.J. Alegre-Del Rey1, M.J. Gandara-LadronDeGuevara1, C. Palomo-Palomo1, J.C. GardiadeParedes-Esteban1, J. Diaz-Navarro1, E. Rios-Sanchez1, J.M. Borrero-Rubio1.

1Hospital Universitario Puerto Real, Pharmacy Department, Puerto Real (Cádiz), Spain.
Background
Most published antiemetic guidelines recommend aprepitant to prevent the delayed-chemotherapy-induced nausea and vomiting (CINV). However, two points had not been considered by authors: first, two-drug combination (metoclopramide+dexamethasone) as standard treatment in previous versions; and second, no study had compared aprepitant with the previous two-drug combination deemed valid by the authors themselves.

Purpose
To assess the efficiency of delayed CINV-prophylaxis protocol (CINV-PP), on patients of high risk of emesis.

Materials and Methods
A protocol/algorithm based on available published trials was designed. This algorithm was applied according to each patient needs and was part of pharmatherapeutical monitoring. Complete response (CR) was defined as no emetic episodes during the overall 5-day study period.

'Standard/initial regimen' consists of metoclopramide+dexamethasone. If this regimen was successful, the treatment was sequentially simplified: dexamethasone+metoclopramide if required; dexamethasone; low-dose dexamethasone. If there were indications of loss of efficacy by reducing the treatment, we returned to the previous regimen. If 'standard/initial regimen' was unsuccessful, the following sequential changes were made: metoclopramide+dexamethasone+lorazepam; aprepitant+dexamethasone+lorazepam.

Endpoints examined were: number of patients achieving CR with each regimen and the economic costs associated with CINV prophylaxis. An estimate of the efficiency of CINV-PP was made, taking into account how many patients were treated with each prophylactic regimen. These results were compared with those that would have obtained if all the patients had received aprepitant.

Results
A total of 256 patients were evaluated (2.5-years period). About 91.8% of patients achieved CR with standard-regimen or less intensive treatment (see the table below).

Cost of CINV-PP was 1549.77 euros. The cost that would have obtained if all the patients had received aprepitant was 14983.68 euros. The estimated saving was of 89.66%.

Conclusions
Only a small percentage of patients needed aprepitant to prevent delayed CINV. Total costs of CINV prophylaxis based on the proposed algorithm will be one tenth of the cost of aprepitant-based regimen.

Table

<table>
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<th>Anti-nausea regimen</th>
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<th>Patients with CR</th>
<th>Cost of treatment for all patients</th>
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<td>Aprepitant</td>
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<td>Dexamethasone</td>
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<td>4.18 €</td>
<td>10 (3.9%)</td>
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<td>Metoclopramide</td>
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<td>Dexamethasone low-dose</td>
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<td>2.46 €</td>
<td>42 (16.4%)</td>
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</table>

No conflict of interest

Keywords
chemotherapy-induced emesis; efficiency; aprepitant;

Authors letter
(1) relevance: it represents a much cheaper alternative to the most antiemetics guidelines recommendations. (2) innovation: the new algorithm allows changes of treatment as needed. (3)
Background
The new protease inhibitors (PI), boceprevir and telaprevir, have demonstrated improved outcomes in hepatitis C virus (HCV)-infected patients in combination with peginterferon and ribavirin. Both are substrates for and inhibitors of the drug transporter P-glycoprotein and the cytochrome P450 enzyme 3A4 and are, therefore, prone to clinically relevant drug interactions.

Purpose
To identify potential drug interactions (PDIs) between PI (telaprevir and boceprevir) and the home medication of hepatitis C patients treated with triple therapy (telaprevir, ribavirin and peginterferon), classify them according to the severity and analyze therapeutic groups (ATC classification) most frequently involved.

Materials and Methods
Prospective observational study performed from September 2012 to September 2013 of all patients treated with PI and home medication. The following variables were recorded for each patient: sex, age, home medication and PDIs. An online literature research was performed about PI interactions (Pubmed/Medline®), and interactions were classified according to the risk as Lexi-Interact™ Online classification: B (no action needed), C (monitor therapy), D (consider therapy modification) and X (avoid combination).

Results
35 patients were included (62.9% men). Median age 54 years [37 – 69]. The median number of drugs of home medication was 5 [1 – 10]. A total of 48 PDIs were detected (mean of PDIs: 1.37 per patient). The 8.3% of PDIs were classified as risk B, 31.3% C, 58.3% D and 2.1% X. Therapeutic groups most frequently involved were: psycholeptics (22.9%), psychoanaleptics (8.3%), drugs for functional gastrointestinal disorders (8.3%), analgesics (8.3%), beta blocking agents (8.3%) and corticosteroids (8.3%).

Conclusions
The incidence of PDIs was very high. In the most of interactions detected was necessary consider therapy modification. Therefore, it would be advisable to realize strict monitoring of chronic treatment of patients treated with telaprevir and boceprevir, to identify and assess the severity of the interactions.

No conflict of interest

Keywords
Protease inhibitors; Hepatitis C; Interactions;

Authors letter
For the attention of the scientific committee of European Association of Hospital Pharmacists Congress, The new protease inhibitors (telaprevir and boceprevir) have proven effective in the treatment of hepatitis C, but with many adverse effects. Addition, telaprevir and boceprevir have involved a major economic impact for health systems. Another problem of these drugs, is the large presence of interactions because are substrates for and inhibitors of the drug transporter P-glycoprotein and the cytochrome P450 3A4 enzyme, many of these interactions clinically significant. This study shows the high incidence of interactions in patients treated with protease inhibitors, which are not detected by the physicians. The pharmacist can play an important role in the detection and monitoring of these interactions.
BAR14-0579
Audit of patient treatment process in oncology outpatient clinic: from welcoming to chemotherapy administration

Co-authors
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2 Centre hospitalier Victor Dupouy, Oncology, Argenteuil Cedex, France.

Background
Today, management of cancer is mostly done in outpatient clinic. Quality and optimization of this management have become a daily issue of oncologic and pharmaceutics departments. In 2012, Argenteuil Hospital took care of 748 patients in outpatient clinic for 5926 chemotherapy sessions. The chemotherapy preparation is extemporaneously centralized at the Pharmacy. A practices evolution is considered particularly by anticipating a part of chemotherapy making or by preparing dose-banding chemotherapy.

Purpose
Audit in oncology outpatient clinic by a cartography of patient treatment process.

Materials and Methods
A schedule of chemotherapy process has been established. 6 steps have been analyzed and timed: patient welcome (top1), medical prescriber interview (top2), nurse interview (top3), chemotherapy delivery to the department (top4), administration (top5) and patient release (top6). The analysis has been run during one week on a sample of 85 patients. A diagnostic tool has been used for data analysis.

Results
Results are expressed in average times by steps and days on graphs. During patient stay at the hospital, 47% are dedicated to chemotherapy administration itself. Moreover, the average delay between prescription and delivery to the department is 41 minutes. This audit has underlined both dysfunctions and positive aspects of the treatment process. Waiting time before nurse care is different over the day and is one of the reorganization points. An important delay has been pointed out for patients who had not made their biological check-up the day before. Indeed, patient care involvement is a major part of proposed ways to improve.

Conclusions
This audit gives us a global view of the patient treatment process concerning chemotherapy in outpatient clinic. Adjustments have been set up and this evaluation process would be used again in order to measure their efficiency.

No conflict of interest

Keywords
audit; outpatient clinic; treatment process;

Authors letter
• Today, the management of cancer treatment is part of quality process and the issue of this study is to constantly improve taking care of patients treated by chemotherapy. The goal is also to optimize collaboration between pharmaceutics and oncologic departments. • This study will give tools to rationalize the chemotherapy production and to evaluate efficiency of the adjustments that will be implemented. However, it can allow improvement of continuity of cares and communication. • The Hospital Pharmacist will be more and more involved in the taking care of patient with cancer and not only to be the one in charge of the chemotherapy production but also to be a permanent contact for all the others health professionals.

Score: 120

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted
Nominee: No

This research is of practical value in the management of the chemotherapy treatment in outpatient clinics.

BAR14-0580
Skin toxicity as early predictor of effectiveness in patients with colon cancer treated with cetuximab

Co-authors
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Background
Cetuximab is a chimeric monoclonal IgG specifically directed against the receptor for the epidermal growth factor receptor (EGFR).
Among the drug-specific toxicity of cetuximab are hypomagnesemia (10% of patients), and effects related to the infusion (10%), but the most common toxicity during treatment with cetuximab is the skin, manifesting in 80% of patients treated, and so severe in 10-20% of these.
The epidermis consists of 90% by keratocytes, rich in receptors for EGFR, explains the high incidence of skin toxicity. The presence and intensity of the skin reactions correlate favorably with the effectiveness of treatment and survival.

Purpose
The aim of this study was to evaluate the toxicity of cetuximab in clinical practice and the possible correlation with the response to treatment in terms of PFS (progression free survival).

Materials and Methods
A retrospective analysis was conducted on the clinical records of patients treated with cetuximab from January 2012 to June 2013, in two Sicilian cancer centers (study RG-SC). We evaluated the toxicity and PFS compared them with the most authoritative RCTs (randomized controlled trials) conducted on cetuximab.

Results
Among the medical records examined were considered evaluable 35 treatments, the skin toxicity of any grade was observed in 63% of patients in the line in 60% with cetuximab - FOLFIRI and 71% with FOLFOX - cetuximab in second-line in 80% of treated patients. The skin toxicity grade 3-4 was found in the line FOLFIRI - cetuximab in 10% vs 18.7%, and with FOLFOX - cetuximab in 14.3% vs 14.1%, in line II in any of the treated patients vs 8.2% respectively reported in RCTs comparing refer to the same regimens.
From the correlation between the degree of skin toxicity and PFS between our study and the study of Crystal, it appears that dermal toxicity grade 0-1 in the PFS was 7.2 vs 5.4 months, the PFS for the grade 2 was 11.7 vs 9.4 and for grade 3 the PFS 14.5 vs 11.3, respectively. The duration of treatment in patients with G4 dermal toxicity that has caused the interruption has been by 12.8 months.

Conclusions
Skin toxicity is the main specific toxicity of cetuximab, requires careful monitoring, in fact, with appropriate control measures is usually manageable and rarely becomes a cause of discontinuation of treatment.
The results showed that in clinical practice of the two cancer centers in Sicily skin toxicity was observed in a smaller percentage of patients than in RCTs. The positive correlation between onset, degree of toxicity and PFS observed in RCTs was confirmed in our study group with better than evidence in the literature.
The onset of skin toxicity and its aggressiveness can be considered as factors predictive of response in patients treated with cetuximab.

No conflict of interest

Keywords
early predictor;effectiveness;skin toxicity;

Authors letter
This work: a) is relevant because it assesses the effectiveness in clinical practice compared with literature data b) is innovative because they are provided efficacy data on the skin toxicity type G4 that is not present in the literature reference (Crystal) c) in clinical practice implies that cetuximab showed PFS data greater than studies, and lower percentages of toxicity; toxicity that if well managed is not a limiting factor but index greater therapeutic response.

No conflict of interest

Keywords
early predictor;effectiveness;skin toxicity;

Authors letter
This work: a) is relevant because it assesses the effectiveness in clinical practice compared with literature data b) is innovative because they are provided efficacy data on the skin toxicity type G4 that is not present in the literature reference (Crystal) c) in clinical practice implies that cetuximab showed PFS data greater than studies, and lower percentages of toxicity; toxicity that if well managed is not a limiting factor but index greater therapeutic response.

Score: 100

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted
Nominee: No
acquired disease (e.g. Crohn’s disease). The main symptoms are abdominal pain, diarrhea and steatorrhea, fluid retention, weight loss, malnutrition and fatigue. In sicker patients permanent parenteral nutrition (PN) may be indicated. In the Pharmacy (SGTF) bags of customized PN are prepared and dispensed, according to the clinical situation. This clinical case is presented because there is only one patient, nowadays being accompanied by SGTF, to perform PN as an outpatient.

**Purpose**

Clinical case description of a patient performing daily personalized PN on an outpatient basis.

**Materials and Methods**

Consulting the patient’s medical file. Preparation records review of all stock held parenteral nutrition for the patient. Prescriptions control of others dispensed drugs.

**Results**

Female patient, 65 years old, diagnosed with Crohn’s in 1992. In this year held the 1st surgery and right hemicolecotomy with extensive resection of the terminal ileum. In 2010 goes under 2nd surgery for an enterocutaneous fistula. The patient is subjected to a 3rd surgery in 2012 for a fistulized injury on the ‘new íleon’ with resection and re-anastomosis. The surgical resection resulted in SBS, with only 20cm of the ileum. Patient with renal impairment and multifactorial chronic anemia. This patient needs PN, sodium bicarbonate, folic acid and cyanocobalamin permanently. After a long period of hospitalization, in Dec 2012 starts to be followed in an outpatient basis, by Gastroenterology day hospital unit. The patient had the necessary instructions to perform autonomously overnight PN, on a daily basis at home, by a central catheter. The PN complements oral diet, helps compensates poor absorption and prevents further episodes of malnutrition. Therefore, these PN bags have small amounts of nutrients. The patient goes to the hospital only 3 times a week to be followed, perform blood tests and pick up PN bags.

**Conclusions**

The patient presents SBS and has permanent need for NP. Currently, performs NP autonomously, at home, after agreement with the services. The patient goes to the hospital the lowest days as possible. The Pharmacy (SGTF) in close collaboration with the Gastroenterology day hospital unit’s clinical team, is crucial in improving the patient’s life quality, contributing to the reduction of hospitalization periods and the inherent cost reduction associated with treatment.

Conflict of interest:
Enter Yes or No: No

**Keywords**

Short Bowel Syndrome; Parenteral Nutrition; Outpatient;

**Authors letter**

This paper pretends to describe a clinical case of a patient performing home parenteral nutrition. This is the only case that is being accompanied by our hospital. In Portugal this therapeutic strategy is very unusual, but can be very important to improve quality of life in those patients with permanent needs of parenteral nutrition. It can also have impact in the decrease of hospitalization periods and the inherent cost reduction associated with treatment.

Score: 0

**Remarks all reviewers:**

Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
2.3.9
Reason for reject: ; ;

**BARI1-0587**

Prevention of oral mucositis in patients undergoing chemotherapy and/or radiotherapy

**Co-authors**

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**Background**

Oral mucositis is a common toxicity of chemotherapy and radiotherapy. It is characterised by inflammation and ulceration of the oral mucosa. In some cases the severity of oral mucositis requires a prolonged hospital stay and disruption of treatment. Preventative measures, if appropriately implemented and adhered to, can delay the onset of oral mucositis and prevent its progression to more severe stages.

**Purpose**

To identify the most efficacious methods and medications to prevent chemotherapy and/or radiotherapy induced oral mucositis.
Materials and Methods

A literature review was conducted to identify methods and medications used in the prevention of oral mucositis. Medications that are not commercially available in Ireland were excluded from the results.

Review current practice in the MMUH against these methods.

Consider practical issues and costs of any recommended changes.

Develop a standardised treatment algorithm for the prevention of oral mucositis.

Results

Key findings from the literature review are:

- Basic oral hygiene techniques are critical in maintaining oral health during cancer treatment.
- Chlorhexidine gluconate has negative consequences when used in patients undergoing chemotherapy and should not be recommended.
- Sodium bicarbonate-sodium chloride solution is an appropriate replacement for chlorhexidine gluconate.
- Cryotherapy is effective in patients undergoing 5-fluorouracil and high-dose melphalan chemotherapy.
- Benzydamine has superior efficacy to alternative agents in preventing radiotherapy-induced oral mucositis.
- Patient and staff education are vital for compliance and the success of prophylactic regimens.

Conclusions

The updated guideline for the prevention of oral mucositis should be implemented for all oncology and haematology patients receiving chemotherapy and/or radiotherapy.

Oncology and haematology staff should be reminded of the importance of compliance with good oral hygiene and be educated on how to prepare sodium bicarbonate – sodium chloride solution.

No conflict of interest.

Keywords

Mucositis, Radiotherapy, Chemotherapy.

Authors Letter

Author’s Letter - Relevance: The MMUH treats approx 900 patients per year with chemotherapy +/- radiotherapy. Oral mucositis can result in hospital admission and delay treatment. - Innovation: Updated guidelines for prevention of oral mucositis in patients receiving chemotherapy and or radiotherapy. - Implication for future hospital pharmacy practice: Improved patient compliance with oral hygiene and a reduction in the severity and occurrence of oral mucositis.

Score: 0

Remarks all reviewers:

Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
2.3.
Reason for reject: ; ;

BARI4-0590

Evaluation of pharmacoeconomic interventions in neurological patients treated with immunoglobulins

Co-authors

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1University Medical Center Hamburg Eppendorf, Hospital Pharmacy, Hamburg, Germany.
2University of Hamburg, Institute of Pharmacy, Hamburg, Germany.

Background

Intravenous immunoglobulins (IVIG) are used in various neurological diseases, sometimes off-label and with different evidence. High treatment cost, the worldwide shortage of IVIG and the special requirements of the German reimbursement system are a challenge for clinical pharmacists in controlling the rational use of IVIG.

Purpose

The aim of the work is to capture the economic benefit of clinical pharmacists’ interventions under consideration of the German reimbursement system.

Materials and Methods

Retrospective analysis of 120 patients treated with IVIG in 464 cycles from January 2011 to August 2013.
at the University Medical Center Hamburg-Eppendorf. Data were taken from a Computerized Physician Order Entry (ATCHos®, Baxter) and an electronic patient record system (Soarian®, Siemens). Any savings due to the intervention of drug and dose selection were included. Avoided costs of saved bed days were calculated with the official data from the Federal and the State Statistic Office.

Results
Clinical pharmacists’ interventions saved costs of 368,128 € during the observation period. Savings were achieved by daily intervention for selection of drug and dose, duration of treatment, checking and correcting the documentation of IVIG administration to ensure correct proceeds and just in time delivery. Further 234 bed days could be saved. This corresponds to an amount of 101,261 € respectively 120,510 €. Overall it’s an amount of approximately 469,390 to 488,638 €. That translates in statistical cost savings of 4,080 € per patient during the observation period.

Conclusions
Clinical pharmacists should be well-integrated in clinical practise of neurological wards because they avoid costs and reduce length of stay. To our knowledge this is the first report of the clinical pharmacists’ impact on cost saving in IVIG treatment.

No conflict of interest

Keywords
Pharmaceutical intervention; economic benefit; Hospital pharmacy.

Authors letter
1. Relevance: high treatment cost and worldwide shortage of immunoglobulins, special requirements of German reimbursement system 2. First report of the clinical pharmacists’ impact on cost saving in IVIG treatment and in neurology 3. Method can be used to describe the economic benefit of clinical pharmacists’ interventions in other therapies with high treatment cost in the future

Score: 100

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted, but Author modifications
To accept if more data about the cost savings are added to the abstract: drugs? Duration of therapy? Dose? ...Lot amount of money is saved, so this must be in relation with the immunoglobulins?

BARI4-0719
MONITORING PATIENTS RECEIVING ENTERAL FEEDINGS
Co-authors
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1Hospital General Universitario de Elche, Pharmacy, Elche, Spain.

Background
Since the publication of the first edition of 'Organisation of Nutritional Support in Hospitals' and 'Hospital Food as treatment', a large number of important political drivers have emerged which seek to influence nutritional care in hospital. Patients receiving enteral nutrition as total nutritional support should be subject to complete monitoring that includes assessment of nutritional status, care, daily checks and nutritional clinical evolution.

Purpose
The objective is describe the intake and nursing interventions by Pharmacist Services in the monitoring of total enteral nutrition (TEN).

Materials and Methods
Descriptive observational study carried out between January to December 2011 in units with unit dose drug distribution. Daily, nurse carried out a of nutritional care in patients with TEN, consisting of: initial assessment by review the clinical history, background, pathology, anthropometric and assessment of individual tolerance. The nutritional support team, responsible pharmacist nutrition and nursing staff, made and registered: anthropometric data, initial nutritional assessment, type of diet and modification (texture, nutrients and volume), case of diarrhea, fiber recommendation for constipation, patient consult, length monitoring of enteral nutrition of intervention, request by the physician and TEN tracking days.

Results
The number of different patients with TEN was 181, with a total enteral nutrition consumption of 639 units. The services distribution was: 16.02% Neurology, 15.47% Internal Medicine, 14.36% General Surgery, 9.39% Oncology, 7.73% Neurosurgery, 7.18% Infectious Diseases Unit, 7.18% Pneumology, short Stay Unit 4.45%, 4.87% Digestive Medicine, 4.42% Otolaryngology, 2.21 Cardiology %, 1.86 % home care unit, 1.11 % Vascular Surgery, and others 3.85%. The interventions were: initial patient assessment in 76% of cases, total number of days of intervention 148 as average of 63.76 interventions.

Score: 100

Remarks all reviewers:
Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Accepted, but Author modifications
To accept if more data about the cost savings are added to the abstract: drugs? Duration of therapy? Dose? ...Lot amount of money is saved, so this must be in relation with the immunoglobulins?
assessment in 75% of cases, total number of days of intervention 148 and an average of 66.25 interventions/month and 4.40 interventions/patient. In 37 patients was modified type of diet, the texture was modified 56 times and the volume 62 times. In 12 interventions changed the type by diarrhea, in 6 patients switch to TEN recommended fiber for constipation, on 3 occasions was the doctor who performed the nutritional monitoring assessment and was carried out the recommendation of the type of diet in a total of 10 patients and resolving a total of 50 questions related to patient treatment with TEN.

Conclusions

Conclusions: The role of the nurse includes the care and monitoring of patients receiving enteral nutrition. Monitoring by nurses in Patients with TEN allows modify, solve problems and improve the care provided.

No conflict of interest

Keywords

ENTERAL NUTRITION; Monitoring; Patient;

Authors letter

Patients receiving enteral nutrition as total nutritional support should be subject to complete monitoring that includes assessment of nutritional status, care, daily checks and nutritional clinical evolution.

Score: 0

Remarks all reviewers:

Spriet, Isabel: Conclusion warranted
Conflict of interest clear
Rejected
2.3
Reason for reject: ; ;